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Indian Standard

SPECIFICATION FOR
DELIVERY VALVE FOR CENTRIFUGAL
FIRE PUMP OUTLETS

(*First Revision*)

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR DELIVERY VALVE FOR CENTRIFUGAL FIRE PUMP OUTLETS

(First Revision)

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Indian Standard

SPECIFICATION FOR
 DELIVERY VALVE FOR CENTRIFUGAL
 FIRE PUMP OUTLETS

(*First Revision*)

0. F O R E W O R D

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 29 August 1986, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 During fire fighting operations, there are occasions when fire pumps of the appliances may have to be shut down and it is, therefore, necessary to fit a simple and efficient device for the same. This Indian Standard covering quick closing clack valve type of device was prepared in 1968. During the course of past 17 years, a lot of changes have taken place in the use of fire fighting equipment, based on the experience gained by the use of the appliances by fire officers. It was found that quick closing clack valve is not of much use with the fire pumps and ordinary screw down type valve is sufficient for use in such appliances. Accordingly, this Indian Standard has been revised which now covers ordinary screw down delivery valves. Further, in view of the change of type of valve, the title of the standard has been modified. Opportunity has also been taken to make the various clauses in respect of materials up-to-date and in line with the corresponding Indian Standards on water fittings. The type of valve covered in this standard will not be suitable for crash tender for which separate Indian Standard covering ball valve type is being formulated.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard lays down the requirements regarding materials, shape and dimensions, construction and performance requirements for delivery valve for centrifugal pump outlets.

2. GENERAL

2.1 Delivery valve assembly shall consist of valve body, instantaneous female outlet and blank cap (*see* Fig. 1).

3. MATERIAL

3.1 The delivery valve body, gland nut and bush, shall be made either of leaded-tin-bronze conforming to Grade LTB-2 of IS : 318-1981* or aluminium alloy conforming to IS Designation 4600, 4450 and 4225 of IS : 617-1975†.

3.2 The valve spindle shall be made of brass rod conforming to IS : 320-1980‡ or IS : 319-1974§ for use with body of leaded-tin-bronze and of stainless steel conforming to IS : 6603-1972|| for use with body of aluminium alloy and leaded tin bronze.

3.3 The handwheel shall be made of leaded-tin-bronze conforming to Grade LTB-2 of IS : 318-1981* for gunmetal body valves or conforming to IS designation 4450, 4225 or 4600 of IS : 617-1975† for aluminium alloy body valve.

3.4 Washers and gaskets shall be made of rubber conforming to IS : 937-1981¶ or leather conforming to IS : 581-1976**, gland packing shall be of asbestos thread conforming to IS : 4687-1980||†.

3.5 The spring shall be of wire conforming to IS : 7608-1975††.

3.6 The instantaneous female outlet and blank cap shall conform to IS : 5290-1983§§.

*Specification for leaded tin bronze ingots and castings (*second revision*).

†Specification for aluminium and aluminium alloy ingots and castings for general engineering purposes (*second revision*).

‡Specification for high tensile brass rods and sections (other than forging stocks) (*second revision*).

§Specification for free-cutting brass bars, rods and sections (*third revision*).

||Specification for stainless steel bars and flats.

¶Specification for washers for water fittings for fire fighting purposes (*second revision*).

**Specification for vegetable tanned hydraulic leather (*second revision*).

††Specification for gland packing asbestos (*first revision*).

|||Specification for phosphor bronze wires (for general engineering purposes).

§§Specification for landing valves (*second revision*).

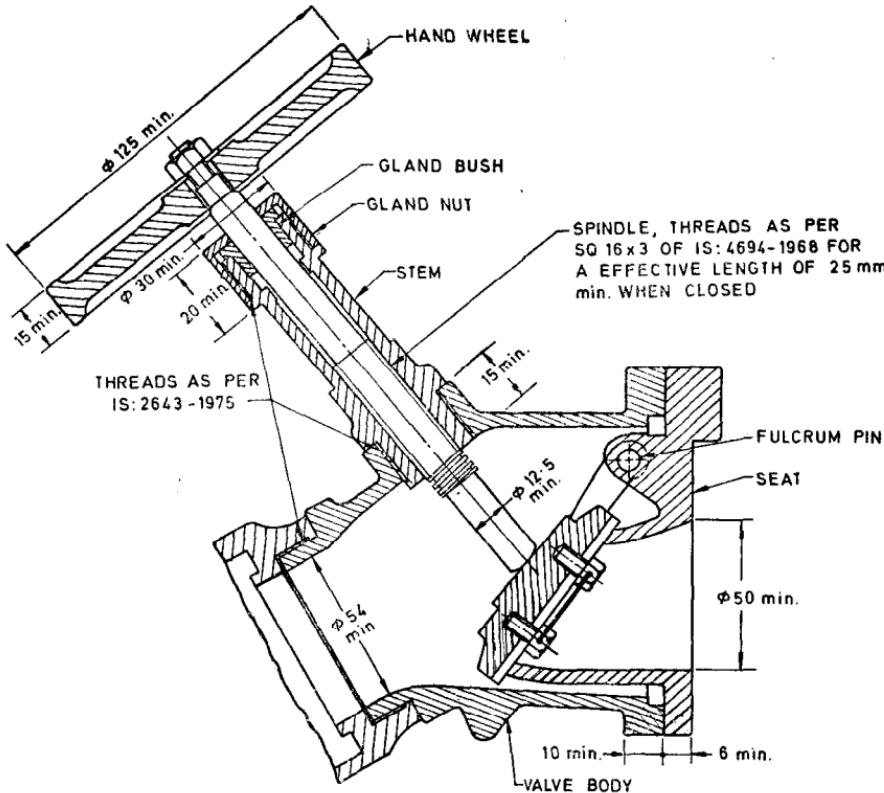
4. DIMENSIONS

4.1 The typical shape and essential dimensions of the delivery valve assembly shall be as shown in Fig. 1.

5. FINISH

5.1 All parts shall be of good finish, clear of burrs and sharp edges. All castings shall be clean and sound and shall be free from plugging, welding or repair of any defects.

5.2 The valve top, except the face of the flange and the instantaneous outlet, shall be painted fire red of shade No. 536 of IS : 5-1978*. The outside of instantaneous outlet shall be polished. The handwheel shall be painted or polished. Paints shall conform to IS : 2932-1974†.



All dimensions in millimetres.

FIG. 1 DETAILS OF DELIVERY VALVE SCREW DOWN TYPE

*Colours for readymixed paints and enamels (*third revision*).

†Specification for enamel, synthetic, exterior (a) under-coating, (b) finishing (*first revision*).

6. PERFORMANCE REQUIREMENT

6.1 Hydrostatic Pressure and Water Tightness Test — The assembly shall be subjected to a hydrostatic pressure of 2.1 MN/m^2 (21 kgf/cm^2) with the wheel valve open for a period of $2\frac{1}{2}$ minutes for the purpose of locating porosity in the casting. When so tested, it shall not fail or show any sign of leakage, either through the valve body or gland of the spindle. The handwheel shall then be turned fully in the closed position and the test shall then be repeated. There shall be no leakage through the flap-valve seat.

7. MARKING

7.1 Each assembled valve unit shall be clearly and permanently marked on the valve body as follows:

- a) Manufacturer's name and/or trade-name, and
- b) Year of manufacture

7.1.1 The valve assembly may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

8. CRITERIA FOR CONFORMITY

8.1 Each unit shall be checked for the requirements given in this standard.

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